

Conference Program



Chania, Crete Island, Greece
July 19-22, 2022

Conference Location:
Conference Center
Hellenic Mediterranean University
3 Romanou Str., Halepa, 73133 Chania, Crete, Greece
<https://www.hmu.gr/en>

19-07-22	Conference Center
09:00-09:45	PLENARY LECTURE Prof. Ali Zolghadri
09:45-10:30	PLENARY LECTURE Prof. Nikos Mastorakis
10:30-11:00	Coffee Break
11:00-13:00	Machine Learning Techniques and Chatbots Development
13:00-15:00	Management and Information Networks
15:00-15:30	Coffee Break
15:30-17:30	Communication Systems and Electromagnetic Compatibility
17:30-19:30	Network Systems, Sensors and Control

20-07-22	Conference Center
09:00-09:45	PLENARY LECTURE Prof. Michael Short
09:45-10:30	PLENARY LECTURE Prof. Christos D. Nikolopoulos
10:30-11:00	Coffee Break
11:00-13:00	Energy Consumption, Water Management and Environment
13:00-15:00	Power Systems and Energy
15:00-15:30	Coffee Break
15:30-17:30	Informatics in Control Theory and its Applications I
21:00	Conference Dinner

21-07-22	Conference Center
09:00-11:00	Robotic Technology
11:00-11:30	Coffee Break
11:30-13:30	Advanced Technologies in Manufacturing and Simulation Tools
13:30-15:30	Informatics in Control Theory and its Applications II
15:30-16:00	Coffee Break
16:00-18:00	Simulations, Computational Analysis and Applications

22-07-22	Conference Center
09:00-11:00	Applied Mathematics, Signal Processing and Speech Recognition
11:00-11:30	Coffee Break
11:30-13:30	Mechanical Applications and Materials
13:30-15:30	Information Systems and Applications
15:30-16:00	Coffee Break

Working Hours of our Secretariat

1st Day (July 19, 2022), 09:00 - 17:30

2nd Day (July 20, 2022), 09:00 - 15:30

3rd Day (July 21, 2022), 09:00 - 11:00

4th Day (July 22, 2022), 09:00 - 11:00

Duties of Secretariat: to deliver you the Bag with the conference materials and reply your questions about your presentation.

Certificate for your Presentation: the Chairman of your Session will deliver it to you after your Presentation (in hard copy).

The Secretariat cannot provide the Certification for your Presentation or sign them.

About Receipts and Invoices: the Receipt / Invoice can be given only in electronic format. If you need Receipt / Invoice, contact us via email.

Tuesday 19th July 2022

Conference Center

Time: 09:00-09:45

Plenary Lecture:



Self-protection and Anomaly Detection & Mitigation for Aircraft Systems

by Professor Ali Zolghadri, Bordeaux University, CNRS | IMS Lab, Bordeaux, FRANCE.

Conference Center

Time: 09:45-10:30

Plenary Lecture:



Stability of Multidimensional Systems: Overview and New Results

by Professor Nikos E. Mastorakis, Technical University of Sofia, BULGARIA.

10:30-11:00: Coffee Break

Tuesday 19th July 2022

Conference Center

Time: 11:00-13:00

Title: Machine Learning Techniques and Chatbots Development

Chair: Asim Eltahir, I. Garrido

An Overview of Chatbot Structure and Algorithms	Asim Mohammed Eltahir, Hussam Abdulla, Jan Platos, Vaclav Snašel
Automated Web Testing using Machine Learning and Containerization	Oussama Loubiri, Stephane Maag
Deep Neural Network and Text Processing: A Literature Review	Asim Mohammed Eltahir, Hussam Abdulla, Saleh Alwahaishi, Khalifa Saghair, Jan Platos, Vaclav Snašel
Machine Learning and Deep Learning Applied to End-of-Line Systems: A Review	Carlos Nunes, E. J. Solteiro Pires, João Barroso, Arsénio Reis
Review of Chatbot Security Systems	Asim Eltahir, Hussam Abdullah, Jan Platos, Vaclav Snašel
A Machine-Learning Approach for the Development of a FOWT Model Integrated with Four OWCs	I. Ahmad, P. Aboutaleb, F. M'zoughi, A. J. Garrido, I. Garrido
Chatbots Development using Natural Language Processing: A Review	Asim Mohammed Eltahir, Hussam Abdulla, Saleh Alwahaishi, Khalifa Saghair, Jan Platos, Vaclav Snašel

Tuesday 19th July 2022

Conference Center

Time: 13:00-15:00

Title: Management and Information Networks

Chair: Marta Blahová, Ilkka Tikanmäki

Diagnostic Management, Operating State Configuration	Marta Blahová
Information Sharing Networks for European Land and Maritime Border Authorities	Ilkka Tikanmäki, Jari Räsänen, Harri Ruoslahti
Employees Satisfaction in Different Industries: An Exploratory Review of the Literature	Anish Ganga, Suchithra Rajendran
Cost Minimization by Linear Shipping Transport Integration into the Supply Chain and Supplier Selection in a New Production Facility	Ahmet Karakaya, Mehtap Dursun, Nazli Goker
Virtual Assistants in a Digital Governance Environment	Luis Pimentel, Arsenio Reis, Rodrigo Pereira, Joao Barroso, Tiago Pinto
Crisis Management and Its Information Software Security	Marta Blahová
System for Evaluation of COVID-19 Prevention Guidelines Compliance	Seonho Kim, Woon-Dong Yeo, Heung-Seon Oh

15:00-15:30: Coffee Break

Tuesday 19th July 2022

Conference Center

Time: 15:30-17:30

Title: Communication Systems and Electromagnetic Compatibility

Chair: Pierre Degauque, Emil Novakov

Theoretical Polarimetric Channel Characterization of Road Tunnels in Presence of Vehicles at 5.9 GHz	Jose-Maria Molina-Garcia-Pardo, Esteban Egea-Lopez, Martine Lienard, Pierre Degauque
Multi-channel Radio Frequency Receiver for High Reliability Satellite Positioning	Emil Novakov
A New Strategy to Design and Implement the Optimal Multi-Antenna Broadcast Channel Precoder	Miguel A. Lagunas
Network Service Decomposition and Telemetry Optimisation using Heuristics	Mioljub Jovanovic, Milan Cabarkapa, Djurdj Budimir, Djurdj Budimir
Logic of Collective Action Revisited	Ian Benson
Design of Planar CPW-Fed UWB Trapezoidal Monopole Antennas with Band Rejection Characteristics	Manolis G. Tampouratzis, Evangelos Katsos, Demosthenes Vouyioukas, Dimitrios Stratakis, Traianos Yioultsis
Experimental measurement of the shield current of an AL SpaceWire cable induced by indirect ESD according to the IEC 61000-4-2 standard	Panagiotis K. Papastamatis, Christos D. Nikolopoulos, Anargyros T. Baklezos, Ioannis O. Vardiambasis, Ioannis F. Gonos, Ioannis A. Stathopoulos

Tuesday 19th July 2022

Conference Center

Time: 17:30-19:30

Title: Network Systems, Sensors and Control

Chair: Marek Kubalčík, Marios Sfendourakis

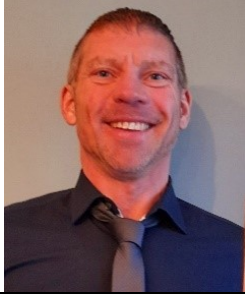
Predictive Control with Measurable Disturbances	Marek Kubalčík, Tomáš Barot
Digital Reliance and Cyber Security Mandate Analysis in hybrid Model	Mohammed Saleh, Thair Khmour, Rula Azzawi, Samer Aoudi
An Efficient Wormhole Attack Detection Method in Wireless Sensor Networks	Saad Al-Ahmadi, Wateen Aliady, Abdulmohssen AlRashedy
Area Coverage Improvement of a Fixed Sensors Network System using Fuzzy Control	Marios Sfendourakis, Zisis Makris, Alexia Dima, Rajagopal Nilavalan
Analysis and Visualization of Public Transport for Integrated Monitoring Dashboard: Case Study of Thane, Maharashtra, India	Madhuri Patel, Samir B. Patel, Debabrata Swain, Parth Raval
Inertia Sensor Detecting Materials using Electromagnetic Signals	Erietta Vasilaki, Alexios Staridas, Zisis Makris, Iraklis Rigakis, Antonia Psaroudaki, Diamanto Lazari, Emmanuel Antonidakis

Wednesday 20th July 2022

Conference Center

Time: 09:00-09:45

Plenary Lecture:



Towards Self-sufficient Energy Communities: ICT Perspective
by Professor Michael Short, School of Computing, Engineering and
Technology Teesside University, Middlesbrough, TS1 3BA, UK.

Conference Center

Time: 09:45-10:30

Plenary Lecture:



Space EMC and Magnetic Cleanliness issues on Science Missions
by Professor Christos D. Nikolopoulos, Hellenic Mediterranean
University, Chania, Crete, GREECE.

10:30-11:00: Coffee Break

Wednesday 20th July 2022

Conference Center

Time: 11:00-13:00

Title: Energy Consumption, Water Management and Environment

Chair: Michael Short

A Feasibility Study on Regeneration Capture on a Seaport Electrified Gantry Crane	Michael Short, Fainan Hassan, Andrew Kidd, Farida Amrouche, Edgar Segovia, Darren Coleman, Martin Walker
Simulations, Computing and Augmented Reality Tool of Water Management	Eva Pajorova, Ladislav Hluchy
Extraction and Storage of Data Related to Users of Water Ecosystem Services in Bulgaria	Adelina Aleksieva-Petrova, Nevena Shuleva, Ralitsa Peycheva
Eco-efficient Prototype of Wastewater Treatment Plant Applying Clean Development Mechanism Methodologies – Mediterranean Countries	Firas Fayssal
Research on the emissions from industrial products exported from Guangdong Province—An Input-Output Model Analysis	Mingjie Li, Junjie Huang
Analysis of Research of Heavy Metals on Ground in "Kosova-A" Thermal Power Plant	Adem Musliu, Arbër Musliu, Bekim Mustafa, Naim Baftiu

Wednesday 20th July 2022

Conference Center

Time: 13:00-15:00

Title: Power Systems and Energy

Chair: Mihaela Hnatiuc, Amir Mohammad

Power Management for Supply of IoT Systems	Bogdan Hnatiuc, Mirel Paun, Sorin Sinteana, Mihaela Hnatiuc
A Feasibility Study on Emissions Reductions and Demand Response in a Seaport Building	Edgar Segovia, Michael Short, Fainan Hassan, Darren Coleman, Martin Walker
Understanding Real-Time Data from Drilling for Oil & Gas in the North Sea	Amir Mohammad, Reggie Davidrajuh
The Performance of Grey Wolf Optimization Families for Voltage Deviation in a Distribution Network with PVs and STATCOMs	Jasim A Ghaeb, Samer Z. Salah
The Solar Energy Forecasting by Pearson Correlation using Deep Learning Techniques	Tamer Musha'l Al-Jaafreh, Abdullah Al-Odienat
Low Energy Buildings Design and Human Comfort Solutions	Abdeen Omer

15:00-15:30: Coffee Break

Wednesday 20th July 2022

Conference Center

Time: 15:30-17:30

Special Session Title: Informatics in Control Theory and its Applications I

Chair: Martina Zabcikova, Milan Adamek

EEG-based Lie Detection using ERP P300 in Response to Known and Unknown Faces: An Overview	Martina Zabcikova, Zuzana Koudelkova, Roman Jasek
Reliability Testing of Software Designed to Detect People	Milan Adamek
Use of Reverse Engineering to Create a Realistic 3D Model for CFD Analysis of A Control Damper	Pavel Stoklasek, Pavel Drabek, Ales Mizera
Crime Scene Testimony in Virtual Reality Applicability Assessment	Jiri Sevcik, Milan Adamek, Vaclav Mach
Vibroacoustics of the Heat Pump Housing and Sound Propagation through the Surrounding Area	Pavel Drabek
Temperature Stability of Injection Moulded Low-Density Polyethylene Parts Modified by Accelerated Electrons	Ales Mizera, Lovre Krstulovic-Opara, Miroslav Manas, Pavel Stoklasek, Michaela Karhankova
Optical Properties of Thin Tungsten Films	Tomáš Martínek

21:00: Conference Dinner at the Halepa Hotel, El. Venizelou 164, 731 33, Chania,
<https://www.halepa.com/>

It is located in a walking distance from the Hellenic Mediterranean University

Thursday 21st July 2022

Conference Center

Time: 09:00-11:00

Title: Robotic Technology

Chair: Dimitar Karastoyanov, Peter Panev

Innovations in Robotic Animal Husbandry	Dimitar Karastoyanov, Elena Blagoeva, Dobri Yarkov
A Kubernetes-based Edge Architecture for Controlling the Trajectory of a Resource-Constrained Aerial Robot by Enabling Model Predictive Control	Achilleas Santi Seisa, Sumeet Gajanan Satpute, George Nikolakopoulos
Teleoperation and Autonomous Mode of Transport Mobile Robot with Mecanum Wheels	Nayden Chivarov, Stanislav Yovkov, Stefan Chivarov, Petko Stoev
Design of a Loading and Unloading Palletizer Module for Transport Service Robot	Peter Panev, Nayden Chivarov, Stefan Chivarov, Miglena Paneva
Service-oriented Architecture for Control of Modular Robots	Denis Chikurtev

11:00-11:30: Coffee Break

Thursday 21st July 2022

Conference Center

Time: 11:30-13:30

Title: Advanced Technologies in Manufacturing and Simulation Tools

Chair: Hubert Dębski, Mirosław Ferdynus

The Analysis of Sensitivity of thin-walled Compressed Composite Columns on Eccentricity Load	Hubert Dębski
Advanced Technologies in Tubular Details Manufacturing	Dimitar Karastoyanov, Vladimir Monov, Dobri Yarkov, Petar Panev
Crashworthiness Indicators of the Column Energy Absorbers with Triggers in the Form of Cylindrical Embossing on the Lateral Edges	Mirosław Ferdynus
Introduction of Live Simulation Tool into the Military Training Program	Ludek Rak, Martin Vlkovsky, Pavel Zahradnicek
Automate the Process of Creating and Conducting Lessons on the Project-based Method through a Web-based Platform	Ava Chikurteva
Innovative Technologies in Steel Pipe Manufacturing Process	Dimitar Karastoyanov, Vladimir Monov, Dobri Yarkov, Miglena Paneva
Multi-layer Stacking Ensemble for Fault Detection Classification in Hydraulic System	Kyutae Kim

Thursday 21st July 2022

Conference Center

Time: 13:30-15:30

Special Session Title: Informatics in Control Theory and its Applications II

Chair: Vladimír Vašek, Dagmar Janáčková

Raman Microscopic Measurement of Materials used on Banknotes	Hana Tomášková, Vladimír Vašek
Crisis Management and Planning in given Company	Michaela Karhankova, Milan Adamek, Ales Mizera, Vaclav Mach, Irena Drofova
Prosumer based District Heating Model	Viliam Dolinay, Lubomir Vasek
Time Profile of the Glass-break Testing Scenario based on the Accelerometer	Vaclav Mach, Michaela Karhankova, Milan Adamek
Analysis of Polygraph Procedure and Data	Lucie Sousedikova, Milan Adamek
Mathematical Modeling of Flow Washing of Preserved Rawhides	Dagmar Janáčková, Pavel Mokrejš, Vladimír Vašek, Rudolf Drga
The Potential of using Virtual Reality in the Field of Security Control in Public Space	Irena Drofova, Milan Adamek, Adam Malatinsky, Michaela Karhankova

15:30-16:00: Coffee Break

Thursday 21st July 2022

Conference Center

Time: 16:00-18:00

Title: Simulations, Computational Analysis and Applications

Chair: S. C. Sharma, Mohammed AKour

Computational Analysis of Fence-type Vertical Axis Wind Turbines Array Suitable for Urban Architecture Integration	Mihnea Gall, Ion Mălăeșel, Dragoș Preda
A three-dimensional High-order Numerical Model for the simulation of the interaction between waves and an emerged barrier	Francesco Gallerano, Federica Palleschi, Benedetta Iele, Giovanni Cannata
Exploring Feature Selection and Classification Algorithms for Cardiac Arrhythmia Disease Prediction	Ravinder Ahuja, S. C. Sharma
Traffic Accident Severity Prediction: A Comparison Study	Mohammed AKour, Osama Al Qasem, Firas Hanandeh
Modeling and Analysis of DC-DC CUK Converter with Coupled Inductors	Fatih M. Tuztasi
Analysis of Fully Differential Folded-Cascode Cross-Coupled Power Amplifier	Kittipong Tripetch
Complete Electrical Equivalent Circuit based Modeling and Analysis of Permanent Magnet Direct Current (DC) Motors	Abdullah Altay, Ali Bekir Yildiz
Numerical Solution of Problem for Forest Fire Initiation and Spread	Valeriy Perminov, Tatiana Belkova

Friday 22nd July 2022

Conference Center

Time: 09:00-11:00

Title: Applied Mathematics, Signal Processing and Speech Recognition

Chair: Vigen Arakelian, Nikolay Stoimenov

Design of Fixed-Sequence Planar 5R Symmetrical Parallel Manipulators	Vigen Arakelian
Continuum Wavelets and Distributions	Yuri K.Dem'yanovich, Olga N. Ivantsova, Aleksandra Y.Ponomareva
3D Tactile Tiles Optimization for Blind and Viually Impaired People	Mira Tzvetkova-Arsova, Margarita Tomova, Gabriela Kotseva, Virginio Cantoni, Peter Panev, Nikolay Stoimenov
Study of Axisymmetric Bending of a Flexible Elastic Round Plate under the Influence of a Transversal Load	Batyrkhan Kyrykbayev, Algazy Zhauyt, Anar Kabytkarim, Zhanar Mukatanova, Toty Buzauova
Work Analysis of Optical CDMA Systems on the Basis of Safety	Ibrahim Qader Ali, Dlshad Jaafer Hussien, Haval Mohammed Sidqi
Experimental Speech Recognition from Pathological Voices	Hadji Salah
Investigation of Insertion-based Speech Recognition Method	Orken Mamyrbayev, Dina Oralbekova, Mohamed Othman, Tolganay Turdalykyzy, Bagashar Zhumazhanov, Kuralai Mukhsina
Fredholm Integral Equation and Splines of the Fifth Order of Approximation	I. G. Burova

11:00-11:30: Coffee Break

Friday 22nd July 2022

Conference Center

Time: 11:30-13:30

Title: Mechanical Applications and Materials

Chair: Martin Novak, Yuchao Hua

Influence of Non-Uniform Distributions of Filler Porosity on the Thermal Performance of Thermocline Storage Tanks	Yuchao Hua, Lingai Luo
Determination of Ball Mill Separation Angle of Different Materials	Nikolay Stoimenov, Miglena Paneva, Stanislav Gyoshev
Experimental Study of the Volume of Voids in a Ball Mill with Different Diameters of Grinding Bodies and Different Filling Coefficients	Nikolay Stoimenov, Stanislav Gyoshev, Todor Penchev
A Practical Approach to Cleaning Molds from Rubber Residues	Martin Novak, Adam Skrobak, Berenika Hausnerova, Vladimir Pata, Petr Janovsky, Barbora Ptoskova
Crystal Structure of Methylene Blue Citrate	Vahobjon Sabirov
Influence of Iodine Doping on the Structural and Electronic Properties of CsSnBr ₃	Dilshod Nematov

Friday 22nd July 2022

Conference Center

Time: 13:30-15:30

Title: Information Systems and Applications

Chair: Jakob Wassermann, Milan Cisty

A New Approach to Enhance Learning Data Sets for Object Classification	Andrzej Dziech, Jakob Wassermann, Michael Windisch, Remigiusz Baran, Andrzej Zeja, Piotr Bogacki
2 CJ Information systems and Technologies for the Safe Operation of Airports	Barbora Kotkova
Heru Technologies Encryption Method: Unique in the World that Uses Unpublished Mathematical Formulas and Encrypts with Binary Disturbances	Carlos França
Comparison of Optimization Methods For Irrigation Systems based on Suboptimal Solutions	Milan Cisty, Barbora Povazanova
Airport defense systems against drones attacks	Barbora Kotkova

15:30-16:00: Coffee Break